

CLAIMS

1. A shelving system comprising a plurality of movable shelves installed for back-and-forth movement on a travel path through a travel supporting device thereby to handle articles with respect to the movable shelves opposed to a working aisle by using the working aisle opened between the movable shelves, wherein

the system further comprises:

at least two movement detecting means for detecting a moved distance in the travel direction and a moved distance in a right-and-left direction for every unit time, said means being provided in the right-and-left direction at right angles to the travel direction along the travel path of each movable shelf; and

control means for finding absolute coordinates of each movement detecting means from the moved distance in the travel direction and the moved distance in the right-and-left direction each detected by each movement detecting means; correcting a deviation in the right-and-left direction from the travel path of the movable shelves involved in the traveling of the movable shelf or the deviation in the travel direction of the movable shelf based on the absolute coordinates, and correcting an attitude of the movable shelf in a direction at right angles to the travel direction or in the travel direction is also arranged.

2. The shelving system according to claim 1, wherein the movement detecting means comprises:

light projecting means for diagonally irradiating light to a floor having the movable shelf arranged thereon;

image pickup means for receiving the light irradiated by the light projecting means and reflected by the floor,

and picking up an image of a fine projection or depression

of the floor; and

a distance detecting means for detecting the moved distance in the travel direction and the moved distance in the right-and-left direction for every unit time by tracking the movement of the position of the fine projection or depressions of the floor picked up by the image pickup means.

3. The shelving system according to claim 2, wherein the movement detecting means comprises:
light detecting means for detecting an illuminance of the floor having the movable shelf arranged thereon; and
adjusting means for adjusting an intensity of the light irradiated by the light projecting means so that the intensity of the light received by the image pickup means becomes constant based on the illuminance of the floor detected by the light detecting means.

4. The shelving system according to claim 2, wherein the light projecting means and the image pickup means are arranged so that an angle formed by the light irradiated by the light projecting means and the light received by the image pickup means is approximately 90 degrees.

5. The shelving system according to claim 2, wherein the light projecting means is arranged so that the direction of the light irradiated by the light projecting means coincides with the travel direction of the movable shelves.

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